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— G-000-711.41 —

**CONSOLIDATED CONSENT AGREEMENT/  
FEDERAL FACILITY COMPLIANCE AGREEMENT  
MONTHLY PROGRESS REPORT PERIOD ENDING  
MAY 31, 1991**

**05/31/91**

**54  
REPORT**

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**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT MONTHLY PROGRESS REPORT**

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Introduction

The Consent Agreement (CA) under the Comprehensive Environmental Response Compensation, and Liability Act (CERCLA) Section 120 and 106(a) and the Federal Facility Compliance Agreement (FFCA) between the U.S. Department of Energy (DOE) and the U.S. Environmental Protection Agency (U.S. EPA), signed April 9, 1990 and July 18, 1986, respectively, require that monthly reports be submitted to the U.S. EPA regarding progress made to meet the provisions of those agreements. This report fulfills those requirements by describing actions undertaken at the Feed Materials Production Center (FMPC) during the period May 1 through May 31, 1991 and planned actions for the period June 1 through June 30, 1991.

Work completed in May by the DOE includes the following:

- The revised Waste Pit Area Runoff Control Removal Action Work Plan was submitted to the U.S. EPA and the Ohio EPA on May 9, 1991.
- A revised sampling and analysis plan for the K-65 Silo sampling was prepared and transmitted to the U.S. EPA for approval on May 30, 1991.
- The Consent Agreement Monthly Progress Report for the period April 1 through April 30, 1991 was submitted to the U.S. EPA on May 17, 1991.
- Weekly reports were submitted to the U.S. EPA and the Ohio EPA documenting the status of the K-65 silos sampling activities.

RI/FS General Information:

- CERCLA cleanup activities at Fernald were featured as part of an exhibit in downtown Cincinnati on May 10, 1991 in support of Public Employees Recognition Week.

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**WORK ASSIGNMENTS AND PROGRESS**

Descriptions of work progress are presented in the following sections and/or enclosures to this report:

- o CA Section IX - Removal Actions.
- o CA Section X - Remedial Investigation/Feasibility Study.
- o Enclosure A - Wastewater flows and radionuclide concentrations under CA Section XXIII.B.
- o Enclosure B - FFCA: Initial Remedial Measures and Other Open Actions.
- o Enclosure C - Drilling/Boring Logs.

**CA Section IX. Removal Actions**

This section provides an update of activities associated with the implementation of Removal Actions (RAs) at the FMPC during May 1991. Information is presented for each of the removal actions identified in the Consent Agreement, and the four recently agreed upon Removal Actions:

- o RA No. 1, Contaminated Water Beneath FMPC Buildings.
- o RA No. 2, Waste Pit Area Runoff Control.
- o RA No. 3, South Groundwater Contamination Plume.
- o RA No. 4, Silos 1 and 2.
- o RA No. 5, K-65 Decant Sump Tank.
- o RA No. 6, Waste Pit 6 Residues.
- o RA No. 7, Outfall Pipeline Replacement (Previously Outfall Pipeline Investigation and Repair).
- o RA No. 8, Plant 1 Pad Continuing Release.

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**RA No. 1, Contaminated Water Beneath FMPC Buildings**

Plant 6 - Pumping and collection of the perched water from underneath Plant 6 began on May 31, 1991. Consistent with the U.S. EPA modifications to the Plant 6 Perched Groundwater Removal Action Work Plan, the water will be treated prior to dilution with other waste streams. The water is currently being collected in a tank located near Plant 6. Approximately 20,000 gallons of water are estimated to be located in the Plant 6 clarifier pit. The available storage capacity for the water at Plant 6 and Plant 8 is approximately 8,000 gallons. Once this capacity is filled, pumping will be discontinued until the Plant 8 treatment system is available. The projected startup date of the treatment system is July 24, 1991. The carbon absorption treatment system in Plant 8 will be used to treat the perched groundwater from Plants 2/3, 6, 8, and 9. The water pumped from Plant 6 will be stored consistent with the approved work plan prior to treatment. The milestone for pumping and treatment of the Plant 6 perched water has been revised to reflect a schedule based upon durations outlined in the removal action work plan and the resolution of the work plan dispute.

Plants 2/3 and Plant 9 - The design work necessary to locate and design the extraction and treatment systems specified by the approved work scope continued on schedule. Engineering activities associated with the detailed design and procurement of piping and equipment to support the removal and treatment of contaminated perched water beneath Plant 9, Plants 2/3, and Plant 8 are underway. The design drawings and specifications for Plants 2/3 and 9 extraction systems arrived from the Architect/Engineer (A/E) in early May. These drawings were the 90% complete toward CFC (Certified For Construction) and will undergo immediate review. The 100% CFC drawings are expected in mid June.

Activities in June will focus on the procurement and installation of equipment for the Plant 8 treatment system.

All activities are on schedule to support the deliverables identified in the three U.S. EPA approved Removal Action Work Plans.

<u>KEY MILESTONES</u>	<u>STATUS</u>	<u>DUE DATE</u>
Pumping and treatment of the Plant 6 perched groundwater operational.	Open, On schedule	July 24, 1991

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**RA No. 1, Contaminated Water Beneath FMPC Buildings (cont'd.)**

<u>KEY MILESTONES</u>	<u>STATUS</u>	<u>DUE DATE</u>
Initiate Pumping in Plant 9.	Open, on schedule.	August 29, 1991
Initiate Pumping in Plants 2/3 and 8.	Open, on schedule.	September 16, 1991

**RA No. 2, Waste Pit Area Runoff Control**

The Waste Pit Area Runoff Control Engineering Evaluation/Cost Analysis (EE/CA) was conditionally approved by the U.S. EPA and the Ohio EPA on September 12, 1990.

The U.S. EPA issued a letter on November 13, 1990 disapproving the Work Plan. Deficiencies cited by the U.S. EPA were incorporated into the Work Plan and the Work Plan was resubmitted on schedule to the U.S. EPA on December 13, 1990. Late comments were received from the Ohio EPA the week of November 19, 1990. These comments were also resolved and reflected in the Work Plan. Conditional U.S. EPA approval of the revised work plan with modifications pertaining to sampling requirements was received on January 10, 1991. The conditions for full approval of the work plan involve details associated with Quality Assurance Program Plan (QAPP) certified analysis of samples and specific buildover criteria for HSLs. The Ohio EPA reviewed the modified sampling and analysis plan and issued conditional approval based on the satisfactory resolution of questions concerning Pre-Excavation Soil Sampling. Issues raised include the concern over the volatilization of VOCs from the first six inches of the surface soil, laboratory quantification limits, the source for background concentrations of heavy metals, and the use of the Extraction Procedure (EP) toxicity test. Final modifications to the Sampling and Analysis Plan (SAP) were resolved and the documentation was completed in April. Pre-excavation samples have been collected and are being analyzed.

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**RA No. 2, Waste Pit Area Runoff Control (cont'd.)**

<u>KEY MILESTONES</u>	<u>STATUS</u>	<u>DUE DATE</u>
Resolution of the Ohio EPA comments on the Revised SAP and transmittal of the final Work Plan with the final comment responses.	Completed. May 9, 1991.	May 6, 1991
Start of sub-contractor construction activities for electrical and utility requirements are expected in June.	Open, on schedule.	June 25, 1991
Completion of "hot spot" removal and clean-up expected in July.	Open, on schedule.	July 17, 1991
Expected start of continuous construction activities associated with the removal action in July.	Open, on schedule.	July 18, 1991

**RA No. 3, South Groundwater Contamination Plume**

The Work Plan for Part 1 (alternate water supply for two industrial users) of the South Plume Removal Action was approved by the U.S. EPA on January 3, 1991. The Ohio EPA approved the Work Plan for Part 1 provided that two comments were satisfactorily resolved. Responses to these comments are being prepared. The Army Corps of Engineers (COE) reached agreement with the owner of the property where the Part 1 test well is to be installed. The Ohio EPA has inspected the well field and found the site acceptable. The COE has obtained deed information on the properties where the alternate water supply mains are to be located. The COE archaeologist has completed a cultural resource investigation (archaeological survey) of the Part 1 well field area and found no reason why the proposed well test activities could not begin. This information was forwarded to DOE Headquarters. It is anticipated that an approval to proceed on the test well activities will be received from DOE-HQ shortly so that this critical activity can begin. This information will eventually be included in the formal report submitted to the Ohio State Historic Preservation Officer for all areas involved in the South Groundwater Contamination Plume Removal Actions.

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RA No. 3, South Groundwater Contamination Plume (cont'd.)

The Work Plans for Part 2 (pump from leading edge of South Plume and discharge to Great Miami River) and Part 3 (the installation and operation of an Interim Advanced Wastewater Treatment [IAWWT] Unit to reduce contaminant loading discharged to the Great Miami River to a level less than 1,700 pounds per year) was prepared as one Work Plan and submitted to the U.S. EPA on December 17, 1990. The Work Plan for Parts 2 and 3 of the South Plume Removal Action was disapproved by the U.S. EPA on January 17, 1991. The Ohio EPA comments were received on January 18, 1991.

The preliminary drawings for Part 2 were issued to the U.S. EPA for informational purposes on February 6, 1991.

A meeting was held on February 8, 1991 at the Ohio EPA Dayton office to discuss key comment items and FMPC's initial responses. The U.S. EPA did not attend the meeting. Several changes resulted from the meeting and were reflected in the revised Work Plan and responses to comments. The Ohio EPA stated that, based on the latest groundwater information discussed at a meeting held on February 1, 1991 at Advanced Sciences, Inc. (ASI) offices, relocation of the well field to the north should be considered.

A second meeting was held February 20, 1991 at the Ohio EPA Dayton office. The U.S. EPA and the Paddy's Run Road Site (PRRS) representatives were in attendance. A discussion on relocating the well field determined that, if possible, the well field should be moved north to minimize impact on the PRRS plume. The Work Plan was revised to reflect an evaluation of this relocation.

Due to the delay required to evaluate relocating the well field, the project was split into two construction packages. The first package, which is the most time consuming to construct, contains the transfer pump station, groundwater discharge pipeline, outfall pipeline, and associated appurtenances. The second package contains the well field details. Construction will be delayed on the well field package until the issues on the well field relocation are resolved.

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RA No. 3, South Groundwater Contamination Plume (cont'd.)

A letter was issued to the U.S. EPA on February 15, 1991, entitled, "Installation of a New Effluent Line and its Incorporation into the South Plume Removal Action." The letter summarized a recently completed study which indicated that the DOE would not attempt to repair the existing outfall pipeline but would instead replace the existing line with a new pipeline. The DOE also stated that a twenty-day extension was needed to make the necessary changes to the Work Plan to reflect this decision.

A revised work plan for Parts 2 and 3 of the South Plume Removal Action, which addressed the aforementioned items, was submitted to the U.S. EPA on March 11, 1991. The Work Plan was approved by the Ohio EPA on April 12, 1991 and by the U.S. EPA on April 26, 1991.

A meeting was held at the U.S. EPA on May 22, 1991 to discuss the scope of work prepared to determine the location of the South Plume Removal Action Part 2 well field. After much discussion, it was determined that the well field could not be successfully installed near New Haven Road because of the organic contaminants in this area from the PRRS plume. Instead, the well field and Transfer Pump Station would be moved north of the Albright & Wilson Americas facilities. However, a Part 5 would be added to the South Plume Removal Action. Part 5 would include sampling to determine what portion of the greater-than 30  $\mu\text{g/l}$  is downstream of the well field and the boundary of the PRRS plume. The DOE will determine the impact of these changes on the project schedules and funding.

A work plan for Part 5 of the South Groundwater Contamination Plume Removal Action was prepared and will be submitted to the U.S. EPA for review in early June 1991. The plan includes the work for computer modeling needed to relocate the Part 2 well field. ASI/IT was subsequently requested to begin the computer modeling required to set the location of the Part 2 well field.

The Design Basis Document for the IAWWT, Part 3, was issued to the U.S. EPA for informational purposes on March 19, 1991. Comments were received from the Ohio EPA on the IAWWT design basis document. Responses to the comments were issued on May 30, 1991. The IAWWT trailer package specification was finalized and issued for bid on May 16, 1991. The bids are due on June 6, 1991. The 100% drawings and specifications for Part 2 were received on May 31, 1991. The package did not reflect the May 22 decision to relocate the well field and transfer pump station.



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**RA No. 3, South Groundwater Contamination Plume (cont'd.)**

Activities in May included continuation of design work for Parts 1 and 2, working with the Corps of Engineers to obtain easements for Parts 1 and 2, negotiating a scope of work for determining the location for the relocated well field, and preparation of the drawings and specifications for the utilities portion of Part 3.

Activities in June will focus on installing the Part 1 test well, the relocation of the Part 2 well field, receiving bids on the IAWWT trailer specification, reviewing the 100% design for the Part 2 transfer pump station and associated appurtenances package, and determining changes required due to relocation of the well field and transfer pump station, and completing the utilities tie-in portion of the Part 3 work.

<u>KEY MILESTONES</u>	<u>STATUS</u>	<u>DUE DATE</u>
Issue Revised Work Plan for Parts 2 & 3 to U.S. EPA for approval.	Completed	March 11, 1991
Issue Design Basis Document for IAWWT to the U.S. EPA for informational purposes.	Completed	March 19, 1991
Determine location of relocated Part 2 Well Field from computer modeling.	Open	TBD
Parts 2 & 3 Revised Work Plan approved by U.S. EPA.	Completed	April 26, 1991
Issue Scope of Work for Part 5.	Open	June 4, 1991
Receive bids for IAWWT trailer portion of Part 3.	Open	June 7, 1991
Issue 100% Part 2 Drawings and specifications to the U.S. EPA for informational purposes.	Open	June 14, 1991

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**RA No. 3, South Groundwater Contamination Plume (cont'd.)**

<u>KEY MILESTONES</u>	<u>STATUS</u>	<u>DUE DATE</u>
Begin Test Well installation for Part 1.	Open	June 26, 1991
Respond to remaining comments from the Ohio EPA for Parts 1 and 2.	Open	June 28, 1991

**RA No. 4, Silos 1 and 2**

The Silos 1 and 2 Removal Action Work Plan was submitted to the U.S. EPA on November 5, 1990. The U.S. EPA approval of the Silos 1 and 2 Removal Action Work Plan was received on November 30, 1990.

The detailed design efforts necessary to implement the Removal Action are nearing completion. The design efforts in June will include issuing a Certified For Construction (CFC) package to implement the Removal Action.

Work in June will center on awarding the contracts associated with the procurement of the equipment necessary to complete the installation of the bentonite. Also, the construction activities associated with modifying the Radon Treatment System (RTS) will be completed, and the operational checkout of the RTS will be initiated.

<u>KEY MILESTONES</u>	<u>STATUS</u>	<u>DUE DATE</u>
Complete installation of bentonite slurry into Silos 1 and 2.	Open	December 1, 1991

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**RA No. 5, K-65 Decant Sump Tank**

The K-65 Decant Sump Tank Removal Action Work Plan was submitted to the U.S. EPA for approval on December 10, 1990. The U.S. EPA conditional approval of the K-65 Decant Sump Tank Removal Action Work Plan was received on January 10, 1991. The responses to the issues included in the conditional approval were submitted to the U.S. EPA on February 8, 1991. A revised implementation schedule was included in these responses.

Pumping and removal of the decant liquid was initiated on March 26, 1991. Removal of the liquid from the K-65 decant sump tank was completed on April 16, 1991 when the liquid was transferred to the holding tanks in Plant 2/3.

The liquid pumped from the K-65 decant sump tank will be stored in the Plant 2/3 holding tanks until the analytical results are available and a RCRA determination has been made. The analytical results and the RCRA determination will define the treatment requirement for the decant sump liquid.

<u>KEY MILESTONES</u>	<u>STATUS</u>	<u>DUE DATE</u>
Complete the removal of the liquid from the K-65 decant sump tank.	Completed (April 16, 1991)	April 26, 1991

**RA No. 6, Waste Pit 6 Residues**

This removal action was completed on December 19, 1990.

**RA No. 7, Outfall Pipeline Replacement (Previously Outfall Pipeline Investigation and Repair)**

A letter was issued to the U.S. EPA on February 15, 1991, entitled "Installation of a New Effluent Line and its Incorporation into the South Plume Removal Action." The letter summarized a recently completed study which indicated that the DOE would not attempt to repair the existing line in situ or an equivalent relining alternative. The construction of the new effluent line has been incorporated into RA No. 3, South Groundwater Contamination Plume. Please see that Removal Action for further information.

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**RA No. 8, Plant 1 Pad Continuing Release**

The Plant 1 Pad Continuing Release Removal Action Work Plan was submitted to U.S. EPA and the Ohio EPA on December 4, 1990. Responses to the U.S. EPA comments on the Work Plan were prepared and submitted on March 1, 1991. The removal action consists of three phases. Phase I implements the run-on/run-off control measures. Phase II addresses the installation of 80,000 square feet of a new covered and controlled concrete storage pad. Phase III involves activities to upgrade the remaining 375,000 square feet of the existing Plant 1 storage pad. Upgrading activities include installation of a polymeric vapor barrier over the existing concrete and the installation of concrete above the barrier with epoxy sealant. In addition, 22,000 square feet of the Phase III work area will be enclosed beneath a Sprung structure.

Activities completed in May included additional sampling for analysis to characterize potential HSL contaminants for the Phase II work area.

Activities in June, pending U.S. EPA approval of comment responses, will include resubmittal of the revised work plan. Subject to the receipt of analytical results, construction of Phases I and II is scheduled to start in July.

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**CA Section X. Remedial Investigation and Feasibility Study (RI/FS)**

This section provides an update on RI/FS Operable Units (OUs), Community Relations and Field Activities for May 1991. Status information is presented for each of the five Operable Units identified in the Consent Agreement. The five Operable Units are described below:

- o Operable Unit 1 (OU 1): Waste Pits 1-6, clearwell, burn pit.
- o Operable Unit 2 (OU 2): Other Waste Units - (fly ash piles, lime sludge).
- o Operable Unit 3 (OU 3): Production area and suspect areas outside production area (including effluent line to Great Miami River).
- o Operable Unit 4 (OU 4): Silos 1, 2, 3, and 4.
- o Operable Unit 5 (OU 5): All environmental media (i.e., including groundwater, surface water, soils, air, flora, fauna, etc.).

**U.S. EPA/DOE RI/FS Negotiations**

As a result of negotiations with the U.S. EPA, the DOE is planning to amend the RI/FS Work Plan to address risk assessment issues. The intent of the Work Plan is to establish risk assessment methodology, scope the future risk assessment work, and provide the approach for determining site-wide risks associated with remedial alternatives. A draft outline of the RI/FS Work Plan Risk Assessment Addendum is scheduled to be submitted on June 14, 1991.

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**Operable Unit 1: Waste Pits 1 - 6, Burn Pit, and Clearwell**

**1.1 Remedial Investigation**

**a. Status of Work - Key Milestones**

Submittal of the Operable Unit 1 Remedial Investigation (RI) Report has been placed on hold pending completion of additional waste unit sampling. A revised schedule for completing the RI Report is being developed.

Review and approval of the site-specific (task-specific) and safety plan required by 29CFR1910.120 was completed. Approval of the health and safety plan was the last step before implementation of the waste pit sampling program.

Purchase of materials and equipment is underway and construction of a temporary roadway to allow equipment access to the waste pits has been initiated. Sampling activities are scheduled to commence in mid-June.

**Activity**

**Comment**

Issue draft RI Report to the U.S. EPA on February 18, 1991.

The U.S. EPA and the DOE have agreed to renegotiate the delivery date for this report.

**b. Issues/Problems**

A variance to the interim Resource Conservation and Recovery Act (RCRA) closure plan for Waste Pit 4 is necessary to allow penetration of the closure cap during sampling activities.

The U.S. EPA and the DOE are in disagreement over whether or not the additional pit sampling constitutes additional work under the provisions of the Consent Agreement.

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Operable Unit 1: Waste Pits 1 - 6, Burn Pit, and Clearwell

1.1 Remedial Investigation (cont'd.)

c. **Corrective Actions**

The DOE has submitted a proposed methodology for completion of sampling activities on Waste Pit 4 to the Ohio EPA for approval. The plan is intended to minimize damage to the closure cover and repair unavoidable damage in a timely fashion. The Ohio EPA and the DOE are working expeditiously to resolve this issue.

The DOE submitted a letter to the U.S. EPA on March 26, 1991 identifying the basis for defining the additional pit sampling as additional work. In an agreement reached between the U.S. EPA and the DOE during May 1991, the U.S. EPA agreed to negotiate new schedules for submittal of all deliverables under the Consent Agreement.

d. **Planned Activities for June 1991**

Continue work on implementing the Work Plan Addendum (Additional Waste Pit Sampling).

Prepare a revised schedule, complete with resource loadings, for delivery of the RI Report that incorporates the additional site characterization.

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Operable Unit 1: Waste Pits 1 - 6, Burn Pit, and Clearwell

1.2 Feasibility Study

a. **Status of Work - Key Milestones**

Submittal of the Feasibility Study (FS) Report is on hold pending completion of the additional Waste Pit Sampling and Treatability Studies.

The revised schedule for completing the FS Report is being resource loaded.

The draft Treatability Study Work Plan was completed and will be submitted for internal review during June 1991.

Activity

Comment

Issue draft FS Report to the U.S. EPA on March 25, 1991.

The U.S. EPA and the DOE have agreed to renegotiate the delivery date of this report.

b. **Issues/Problems**

The U.S. EPA and the DOE are in disagreement over whether or not the additional waste pit sampling meets the definition of additional work as defined in the Consent Agreement.

c. **Corrective Actions**

The DOE submitted a letter to the U.S. EPA on March 26, 1991 defining the basis for the additional work. In an agreement reached between the U.S. EPA and the DOE during May 1991, new schedules for submittal of all deliverables under the Consent Agreement are to be negotiated.



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Operable Unit 1: Waste Pits 1 - 6, Burn Pit, and Clearwell

1.2 Feasibility Study (cont'd.)

d. Planned Activities for June 1991

Complete a revised resource-loaded schedule for the FS Report that incorporates the additional site characterization data and treatability studies.

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**SCHEDULES FOR THE SUBMITTAL OF PRIMARY DOCUMENTS UNDER THE  
TERMS OF THE CONSENT AGREEMENT ARE ON HOLD PENDING THE  
RENEGOTIATION OF THE REVISED CONSENT AGREEMENT DELIVERY DATES.**

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**Operable Unit 2: Other Waste Units**

**2.1 Remedial Investigation**

**a. Status of Work - Key Milestones**

Submittal of the Operable Unit 2 Remedial Investigation (RI) Report has been delayed pending completion of additional site characterization and incorporation of this information into the RI Report. Revised resource-loaded schedules are being developed to support negotiations between the DOE and the U.S. EPA.

<u>Activity</u>	<u>Comment</u>
Issue draft RI Report to the U.S. EPA by February 11, 1991.	The U.S. EPA and the DOE have agreed to renegotiate this delivery date for this report.

**b. Issues/Problems**

The revised Work Plan Addendum for additional sampling for Operable Unit 2 was sent to the U.S. EPA in April 1991. The revised plan included the additional boring located in the Sanitary Landfill (requested by the Ohio EPA), as well as a Simulated Rainwater Leaching Procedure (SRLP). No formal response has been received from the U.S. EPA on the additions to the sampling plan. The sampling effort is underway and resolution of this issue is needed so that analytical testing can proceed in accordance with a revised work plan approved by the U.S. EPA. A letter dated May 30, 1991 was received from the Ohio EPA agreeing with all modifications except for the SRLP.

**c. Corrective Actions**

The DOE will seek approval of the revised Work Plan Addendum during schedule negotiations with the U.S. EPA.

**d. Planned Activities for June 1991**

Continue work on sampling activities and schedules.

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Operable Unit 2: Other Waste Units

2.2 Feasibility Study

a. Status of Work - Key Milestones

Submittal of the Operable Unit 2 FS Report has been delayed pending completion of additional site characterization and incorporation of this information into the report.

The draft Treatability Study was completed and submitted for internal review on May 31, 1991.

<u>Activity</u>	<u>Comment</u>
Issue draft FS Report to the U.S. EPA on March 25, 1991.	The U.S. EPA and the DOE have agreed to renegotiate this delivery date.
b. Issues/Problems	
None to report.	
c. Corrective Actions	
None required.	
d. Planned Activities for June 1991	
Continue work on a revised schedule for delivery of the FS Report that incorporates the additional site characterization data and treatability results.	

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**SCHEDULES FOR THE SUBMITTAL OF PRIMARY DOCUMENTS UNDER THE  
TERMS OF THE CONSENT AGREEMENT ARE ON HOLD PENDING THE  
RENEGOTIATION OF THE REVISED CONSENT AGREEMENT DELIVERY DATES.**

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Operable Unit 3: Production Area and Suspect Areas

3.1 Remedial Investigation

a. Status of Work - Key Milestones

The major emphasis for Operable Unit 3 work continues to be focused on planning, scheduling, and resource forecasting for the enhanced scope of work necessary to conform with the Initial Screening of Alternatives (ISA) dispute resolution agreement. Draft schedules to support the Consent Agreement have been generated and are undergoing internal review.

Although extensive additional field characterization work will be required to address the expanded scope of work for Operable Unit 3, continuing RI Report work includes the following tasks: preparation of work plans in order to complete the investigation of Operable Unit 3 soils and perched groundwater contamination, integrating time critical removal actions into the RI Report, and continuing the analysis of the perched groundwater zones.

Research of Atomic Energy Commission/Department of Energy (AEC/DOE) archives continued in an attempt to uncover evidence of the existence of a vault in the north flagpole area.

Activity

Comment

Issue draft RI Report to the U.S. EPA on April 8, 1991.

The U.S. EPA and the DOE have agreed to renegotiate this delivery date.

b. Issues/Problems

None to report.

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Operable Unit 3: Production Area and Suspect Areas

3.1 Remedial Investigation (cont'd.)

c. **Corrective Actions**

None required.

d. **Planned Activities for June 1991**

Complete the revision to the Operable Unit 3 schedule and resource forecast, incorporating the additional work scope. Also, complete preparation of work plans relative to additional field programs necessary to fully characterize the soils and perched groundwater within the production and suspect areas. In addition, continue work on the following activities: determining the effect of the storm sewer system on perched groundwater contamination, integrating time critical removal actions into the RI Report, and continuing the analysis of the perched groundwater zones.

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**Operable Unit 3: Production Area and Suspect Areas**

**3.2 Feasibility Study**

**a. Status of Work - Key Milestones**

Comment responses were submitted to the U.S. EPA on the proposed outline for the expanded scope ISA Report and the Coal Pile Runoff Basin sampling and analysis work plan.

**Activity**

**Comment**

Issue draft final ISA Report to the U.S. EPA.

Open, formal dispute resolution completed. Schedule renegotiations ongoing.

**b. Issues/Problems**

None to report.

**c. Corrective Actions**

None required.

**d. Planned Activities for June 1991**

Continue development of detailed scoping logic related to the expanded Operable Unit 3 scope of work. This encompasses evaluation of ongoing RCRA, construction, inventory management, and other production area programs to determine how these may best be addressed by Operable Unit 3.



**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT MONTHLY PROGRESS REPORT**

Period Ending May 31, 1991

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**SCHEDULES FOR THE SUBMITTAL OF PRIMARY DOCUMENTS UNDER THE  
TERMS OF THE CONSENT AGREEMENT ARE ON HOLD PENDING THE  
RENEGOTIATION OF THE REVISED CONSENT AGREEMENT DELIVERY DATES.**

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT MONTHLY PROGRESS REPORT**

Period Ending May 31, 1991

**Operable Unit 4: Silos 1, 2, 3, and 4**

**4.1 Remedial Investigation**

**a. Status of Work - Key Milestones**

Work on the RI Report was placed on hold awaiting the conclusion of the site characterization program for Operable Unit 4. A Treatability Study Work Plan was distributed for internal review. Review comments are being incorporated as appropriate upon receipt.

Characterization activities in support of Operable Unit 4 are explained in Section 7.

A revised sampling and analysis plan for the K-65 Silo sampling was prepared and transmitted to the U.S. EPA for approval on May 30, 1991.

**b. Issues/Problems**

A revised schedule for preparation of the Operable Unit 4 RI Report was prepared and submitted for internal review.

**c. Corrective Actions**

Priority has been given to the Operable Unit 4 sampling program. A revised schedule for preparation of the Operable Unit 4 RI Report was prepared and submitted for internal review.

**d. Planned Activities for June 1991**

Conduct field activities on the K-65 subsoils and berm sampling programs.

Develop resource requirements to support revised schedules.

CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT MONTHLY PROGRESS REPORT

Period Ending May 31, 1991

Operable Unit 4: Silos 1, 2, 3, and 4

4.2 Feasibility Study

a. Status of Work - Key Milestones

The FS Report will be revised upon completion of the characterization activities and treatability studies necessary to complete the detailed analysis of alternatives.

b. Issues/Problems

Awaiting completion of field program and treatability studies in order to continue work on this portion of the project.

c. Corrective Actions

RI/FS schedules are being revised.

d. Planned Activities for June 1991

Continue field activities on the K-65 subsoils and berm sampling. Address any comments received on the Treatability Study Work Plans.

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT MONTHLY PROGRESS REPORT**

**Period Ending May 31, 1991**

**SCHEDULES FOR THE SUBMITTAL OF PRIMARY DOCUMENTS UNDER THE  
TERMS OF THE CONSENT AGREEMENT ARE ON HOLD PENDING THE  
RENEGOTIATION OF THE REVISED CONSENT AGREEMENT DELIVERY DATES.**

CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT MONTHLY PROGRESS REPORT

Period Ending May 31, 1991

Operable Unit 5: All Environmental Media

5.1 Remedial Investigation

a. Status of Work - Key Milestones

The issuance of the RI Report remains on hold pending the resolution of the revised schedule. This revised schedule has undergone internal review and comments have been incorporated. Preparation of resource-loaded schedules was initiated.

Activity

Comment

Issue draft RI Report  
to the U.S. EPA.

The U.S. EPA and the DOE have  
agreed to renegotiate the  
delivery date.

b. Issues/Problems

The results from the additional sampling and analysis are not available for inclusion in the RI Report.

c. Corrective Actions

The Paddy's Run Seepage Investigation is continuing and schedules are being prepared for revised delivery dates of primary documents to support the U.S. EPA/DOE negotiations.

d. Planned Activities for June 1991

Prepare a revised schedule and resource loading for negotiations with the U.S. EPA.

CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT MONTHLY PROGRESS REPORT

Period Ending May 31, 1991

Operable Unit 5: All Environmental Media

5.2 Feasibility Study

a. Status of Work - Key Milestones

On March 20, 1991, the DOE informed the U.S. EPA that the milestone for submittal of the FS Report will require negotiation based on the additional field characterization required for the Operable Unit 5 RI Report. This additional field work will impact the progress on both primary and secondary FS Report documents.

Internal review comments were received from the site on the revised schedule for completion of the FS Report.

Activity

Comment

Issue Detailed Analysis  
of Alternatives/Selection  
of Preferred Alternative  
to the U.S. EPA.

Open,  
on hold; additional  
characterization  
required.

Issue draft FS Report  
to the U.S. EPA.

Open,  
on hold; additional  
characterization  
required.

b. Issues/Problems

The scheduled submittal dates for the FS Report documents will not be achieved.

c. Corrective Actions

Evaluate the impact of additional field work and prepare revised schedules for negotiation.

CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT MONTHLY PROGRESS REPORT

Period Ending May 31, 1991

Operable Unit 5: All Environmental Media

5.2 Feasibility Study (cont'd.)

d. Planned Activities for June 1991

Continue preparation of revised schedules, incorporating internal review comments and resource-loaded schedules for negotiation with the U.S. EPA.

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT MONTHLY PROGRESS REPORT**

**Period Ending May 31, 1991**

**SCHEDULES FOR THE SUBMITTAL OF PRIMARY DOCUMENTS UNDER THE  
TERMS OF THE CONSENT AGREEMENT ARE ON HOLD PENDING THE  
RENEGOTIATION OF THE REVISED CONSENT AGREEMENT DELIVERY DATES.**



**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT MONTHLY PROGRESS REPORT**

Period Ending May 31, 1991

**RI/FS Community Relations**

**6.0 RI/FS Community Relations**

**a. Status of Work**

CERCLA cleanup activities at Fernald were featured as part of an exhibit in downtown Cincinnati on May 10, 1991 in support of Public Employees Recognition Week.

The DOE made a presentation to the Fernald Residents for Environment, Safety and Health (FRESH) at the May meeting.

A Community Roundtable on groundwater was held on May 20, 1991. Two community residents participated.

A tracking system was developed to document public exposure to the RI/FS exhibit outside RI/FS community meetings.

Preparation began for the next community meeting.

**b/c. Problems/Corrective Action**

None to report./None required.

**d. Planned Activities for June 1991**

A summer community meeting is planned for late June, or possibly July.

Formal announcement of site closure (cessation of production) is expected in June 1991.

CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT MONTHLY PROGRESS REPORT

Period Ending May 31, 1991

7.0 Field Activities

Surveying Activities

Surveying activities continued during May, focusing on establishing the horizontal and vertical coordinates installed during the period. Surveying support continued for the K-65 Subsoil (slant borings) Investigation to establish drilling angles and drill alignment. Surveying of property boundaries in the area bounded by Wiley, Paddy's Run, New Haven Roads, and State Route 128 began. Work was initiated to convert plant coordinates to state planar coordinates.

Operable Unit 1 Field Sampling: Waste Pits

Procurement of the materials needed to bore and install monitor wells in the waste pits is proceeding. Temporary road construction was initiated in May. Sampling is scheduled to begin in June.

Operable Unit 2 Field Sampling: Other Waste Units

Procurement proceeded for the materials needed to bore and install wells at the Sanitary Landfill and the active and inactive fly ash pile locations. The Southfield hand-augering program and the Lime Sludge Ponds hand-augering and water sampling programs were completed in May 1991. Borings 1710 and 1711 were drilled through the inactive fly ash pile. Boring 1710 did not encounter water so it was plugged. Perched water was found near the fly ash/soil interface in Boring 1711. As a result, a monitoring well was installed.

CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT MONTHLY PROGRESS REPORT

Period Ending May 31, 1991

7.0 Field Activities (cont'd.)

Operable Unit 4 Field Sampling: Silos 1, 2, 3, and 4

Implementation of the K-65 Silo subsoils sampling program (slant borings) continued throughout the period. Perched groundwater was encountered during the drilling of Boring 1617 on the southwest side of Silo 1. The boring was halted at 68.5 feet so that the water could be sampled. All boring equipment was moved to Boring location 1616, where sampling beneath the decant tank is scheduled. Perched groundwater samples were collected from Boring 1615, which is located northwest of Silo 2. Some of the analyses for Boring 1615 are being expedited through the site laboratory, and a sample was also shipped for analysis to the QAPP-listed laboratory. The perched water will be analyzed for radiological constituents, HSL, general water chemistry parameters, metals, and for the additional radiological constituents requested by the Ohio EPA: polonium-210, protactinium-231, actinium-227, and lead-210. A meeting between the U.S. EPA and the DOE was held on May 22, 1991 to discuss the direction of the investigation based on encountering a perched water zone. During the meeting, it was agreed to sample the water and temporarily abandon Borings 1615 and 1617. Boring 1616 will be temporarily cased in order to obtain usable water samples from below the decant tank because perched water is expected to be encountered before reaching the scheduled depth. Borings 1618 and 1619 will remain as originally proposed unless perched water is encountered. If encountered, the water will be sampled. The subsoils boring schedule was revised accordingly. To support future decisions, boring logs and available cross-sections of the hydrogeologic environment of the silo area were prepared and forwarded to the U.S. EPA.

Implementation of K-65 Silo subsoils vertical sampling program (berm sampling) continued throughout the period. The K-65 berm sampling crew collected soil samples with the Vibra-corer at three of the four berm sample locations in May; Boring 1622 on the east side of Silo 1, Boring 1620 on the west side of Silo 1, and Boring 1621 on the west side of Silo 2. Approximately 28 feet of berm samples were collected at each location, and the recovery rate for all three samples was at least 85%. Sampling of the remaining boring will be completed in early June.

CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT MONTHLY PROGRESS REPORT

Period Ending May 31, 1991

7.0 Field Activities (cont'd.)

Operable Unit 5 Field Sampling: All Environmental Media

Implementation of the Paddy's Run South Seepage investigation continued during the period. Access agreements for well locations 0552, 0553, and 0557 were being negotiated with the landowners; 2000-series wells remain to be installed at each of these locations. Groundwater sampling efforts continued in May with 31 wells sampled in the Paddy's Run South program. Stream flow measurements were taken at three locations along Paddy's Run Creek, south of the Fernald site. These measurements were collected in order to determine gaining and losing sections of the stream.

One location remains to be drilled and sampled in the 31-well program. Negotiations continued with the landowner for access to this location. This well is needed to assist in the determination of the southeastern limits of the South Plume. The proposed installation site is located slightly north and east of the intersection of State Route 128 and New Haven Road.

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT MONTHLY PROGRESS REPORT**

Period Ending May 31, 1991

**8.0 Engineering Disposal Facility (EDF) Site Characterization and Suitability Investigation**

**a. Status of Work**

All site characterizations and Sampling and Analysis Plan (SAP) development activities which were initiated in April continued in May. The SAP was delivered on May 6, 1991 for internal review.

<u>Activity</u>	<u>Comment</u>
Issue draft SAP for Ohio EPA/ U.S. EPA review.	Open, delayed; internal review not complete.
Receive Ohio EPA/U.S. EPA comments for incorporation into SAP.	TBD
Issue final SAP to Ohio EPA/U.S. EPA by August 24, 1991.	Open.

**b. Issues/Problems**

None to report.

**c. Corrective Actions**

None required.

**d. Planned Activities for June 1991**

A SAP comment resolution meeting will be held at the site on June 7, 1991 to address issues of concern and comment incorporation into the SAP. The draft SAP will be revised and issued for Ohio EPA/U.S. EPA review.

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT MONTHLY PROGRESS REPORT**

**PERIOD ENDING MAY 31, 1991**

**ENCLOSURE A  
WASTEWATER FLOWS AND RADIONUCLIDE  
CONCENTRATIONS UNDER CA SECTION XXIII.B**

CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT MONTHLY PROGRESS REPORT

Period Ending May 31, 1991

### Introduction

The accompanying Effluent Radiation Reports provide, in accordance with the requirements of Section XXIII.B of the Consent Agreement under CERCLA Section 120 and 106 (a), data on the daily wastewater flows and radionuclide concentrations and loadings released to the Great Miami River and an estimate of runoff and radionuclide concentrations to Paddy's Run during May 1991.

### Summary - May 1991

The total quantity of uranium discharged from the FMPC to the Great Miami River via Manhole 175 (Outfall 1I000004001) was 47.11 kilograms. The average uranium concentration for the previous 12 months was 0.88 mg/l. This is 98.9 percent of the Derived Concentration Guide (DOE Order 5400.5) for ingested water.

There was no discharge from the Stormwater Retention Basin (Outfall 1I000004002) to Paddy's Run via the Storm Sewer Outfall Ditch in May 1991. Based on 2.61 inches of rainfall in May 1991, the total quantity of uranium discharged to Paddy's Run from uncontrolled areas of the FMPC is estimated to be 11.75 kilograms.

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT MONTHLY PROGRESS REPORT**

Period Ending May 31, 1991

**Wastewater Flows and Radionuclide Concentrations**

**FACILITY:** Feed Materials Production Center, U.S. Department of Energy  
7400 Willey Road, P.O. Box 398704  
Cincinnati, Ohio 45239 Hamilton  
9002 M 9501 900212

**LOCATION:** 11000004001; 001 Total Discharge  
Manhole 175 (Effluent to Great Miami River)

**MONTH:** May 1991

<u>Day</u>	<u>Flow (MGD)</u>	<u>Total Alpha (pCi/l)</u>	<u>Total Beta (pCi/l)</u>	<u>Total U (mg/l)</u>	<u>Total U (kgs)</u>	<u>Calculated Total U-238 (pCi/l) (1)</u>
1	0.353	351	95	0.56	0.75	189
2	0.322	824	342	1.74	2.12	588
3	0.395	824	333	1.92	2.87	649
4	0.322	703	275	1.78	2.17	601
5	0.323	635	248	1.52	1.86	514
6	0.366	459	315	1.14	1.58	385
7	0.355	491	275	1.10	1.48	372
8	0.354	459	342	0.96	1.29	324
9	0.421	464	221	1.02	1.62	345
10	0.400	419	342	1.14	1.73	385
11	0.281	473	374	0.98	1.04	331
12	0.244	293	144	0.58	0.54	196
13	0.245	212	99	0.40	0.37	135
14	0.647	329	180	0.84	2.06	284
15	0.922	459	86	0.88	3.07	297
16	0.583	586	126	1.30	2.87	439
17	0.324	622	297	1.62	1.99	547
18	0.449	455	248	0.98	1.66	331
19	1.072	297	63	0.62	2.51	209
20	1.095	230	63	0.30	1.24	101
21	0.786	171	81	0.30	0.89	101
22	0.421	270	122	0.52	0.83	176
23	0.326	293	117	0.68	0.84	230
24	0.392	360	207	0.54	0.80	182
25	0.328	329	306	0.66	0.82	223
26	0.355	342	239	0.96	0.99	250
27	0.547	351	252	0.56	1.99	324
28	0.285	207	122	0.98	0.60	189
29	0.412	477	185	1.10	1.53	331
30	0.411	428	239	0.94	1.71	372
31	0.368	414	0		1.31	318
	----- 14.104				----- 47.11	



**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT MONTHLY PROGRESS REPORT**

Period Ending May 31, 1991

**Wastewater Flows and Radionuclide Concentrations (cont'd.)**

FACILITY: Feed Materials Production Center

LOCATION: 001 Total Discharge

MONTH: May 1991

	<u>Flow</u> <u>(MGD)</u>	<u>Total</u> <u>Alpha</u> <u>(pCi/l)(2)</u>	<u>Total</u> <u>Beta</u> <u>(pCi/l)(2)</u>	<u>Total U</u> <u>(mg/l)(2)</u>	<u>Total U</u> <u>(kgs)</u>	<u>Calculated</u> <u>Total U-238</u> <u>(pCi/l)(1)(2)</u>
Avg.	0.455	405	181	0.88	1.52	298
Max.	1.095	824	374	1.92	3.07	649
Min.	0.244	171	0	0.30	0.37	101

The average uranium concentration for the previous 12 months was 0.88 mg/l. This is 98.9 percent of the Derived Concentration Guide (DOE Order 5400.5) for ingested water.

- Comments: (1) The calculated total U-238 is based on a conversion factor of 337.84 pCi U-238/mg Total U applied to the measured value of total uranium.
- (2) Average values presented are flow-weighted.

CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT MONTHLY PROGRESS REPORT

Period Ending May 31, 1991

Wastewater Flows and Radionuclide Concentrations (cont'd.)

FACILITY: Feed Materials Production Center, U.S. Department of Energy  
7400 Willey Road, P.O. Box 398704  
Cincinnati, Ohio 45239 Hamilton  
9002 M 9501 900212

LOCATION: 11000004002, 002 Discharge (Overflow) to Storm Sewer Outfall Ditch  
Stormwater Retention Basin Spillway (Effluent to Paddy's Run)

MONTH: May 1991

There was no discharge to Paddy's Run from the Stormwater Retention Basin.

Based on 2.61 inches of rainfall in May 1991, the uranium discharge to Paddy's Run from uncontrolled areas of the FMPC is estimated to be 11.75 kgs.

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT MONTHLY PROGRESS REPORT  
PERIOD ENDING MAY 31, 1991**

**ENCLOSURE B  
FFCA: INITIAL REMEDIAL MEASURES  
AND OTHER OPEN ACTIONS**

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT MONTHLY PROGRESS REPORT**

Period Ending May 31, 1991

**INTRODUCTION**

Enclosure B describes actions undertaken at the Fernald site during the period May 1 through May 31, 1991 that are not covered by the reporting requirements of the Consent Agreement under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 120 and 106(a).

**WORK ASSIGNMENTS AND PROGRESS**

Descriptions of ongoing work progress are presented in the following sections of this report. The status of ongoing work in support of the Federal Facility Compliance Agreement (FFCA) is summarized in Table 1 of Enclosure B. Completed work previously reported upon has been eliminated for brevity's sake. In this portion of the report and in Table 1, descriptions of actions are presented in a format consistent with that of the FFCA.

**COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND  
LIABILITY ACT (CERCLA)**

1. Initial Remedial Measures

*Section C*

K-65 Silo Project - Implementation of the K-65 Silo subsoils program continued throughout May 1991. Perched water was encountered during the drilling of Boring 1617 on the southwest side of Silo 1. The boring was halted at a depth of 68.5 feet in order to analyze the perched water that was encountered.

Three soil samples from the K-65 berm were taken in May 1991. Borings 1622 and 1620 on the east and west sides of Silo 1 respectively and boring 1621 on the west side of Silo 2 were completed. Berm samples to approximately 28 feet with an approximate recovery rate of 85% were collected at each location. The fourth berm sample will be taken in June 1991.

CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT MONTHLY PROGRESS REPORT

Period Ending May 31, 1991

COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND  
LIABILITY ACT (CERCLA)

2. Remedial Investigation/Feasibility Study (RI/FS)

Status information on the Remedial Investigation/Feasibility Study (RI/FS) normally reported in this section is being provided separately in accordance with the requirements of Section X of the Consent Agreement under CERCLA Section 120 and 106(a).

3. Reports and Record Keeping

*Section B*

The RI/FS Monthly Technical Progress Report for April 1991 was transmitted to the U.S. EPA on May 17, 1991 as an integral part of the Consolidated Consent Agreement/Federal Facility Compliance Agreement (CA/FFCA) Monthly Progress Report in accordance with requirements of Section X of the Consent Agreement.

CLEAN AIR ACT (CAA)

*Section E*

The eighteenth Quarterly Particulate Emissions Report for the period January 4, 1991 through April 5, 1991 was submitted to the U.S. EPA on May 24, 1991.

RADIATION DISCHARGE INFORMATION

*Section A*

The eighteenth Quarterly Liquid Discharge Report for the period January through March 1991 was submitted to the U.S. EPA on May 24, 1991.

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT MONTHLY PROGRESS REPORT**

Period Ending May 31, 1991

**COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND  
LIABILITY ACT (CERCLA)**

**REPORTING REQUIREMENTS**

*Section B*

The Federal Facilities Compliance Agreement Monthly Progress Report for April 1991 was transmitted to the U.S. EPA on May 17, 1991 as Enclosure B of the Consolidated Consent Agreement/Federal Facility Compliance Agreement (CA/FFCA) Monthly Progress Report.

TABLE 1

**STATUS OF ASSIGNMENTS FOR WORK REQUIRED ON  
FEDERAL FACILITY COMPLIANCE AGREEMENT ACTIONS**

**STATUS OF ACTIONS AS OF  
MAY 31, 1991**

ACTION	DESCRIPTION	COMPLETION TIME AFTER FFCA SIGNED	FY91 STATUS
<b>CERCLA</b>			
1.	INITIAL REMEDIAL MEASURES		
1.C	Implement radon control plan approved by the U.S. EPA.	-----	No longer applicable. Progress on actions to address radon emissions from the K-65 Silos are being reported separately under Section IX-Removal Actions of the Consent Agreement/FFCA Monthly Progress Report.
2.	REMEDIAL INVESTIGATION/FEASIBILITY STUDY		No action required.
2.A	RI/FS work is to be conducted in accordance with the U.S. EPA guidelines.	N/A	
2.B	-- No Action Required --	-----	Status information on the RI/FS is being reported in accordance with the requirements of Section X of the Consent Agreement under CERCLA Section 120 and 106(a).
2.E	Amend and submit revised RI/FS Work Plan to U.S. EPA if deficiencies are found.		Status information on the RI/FS is being reported in accordance with the requirements of Section X of the Consent Agreement under CERCLA Section 120 and 106(a).
2.F	Implement tasks described in the approved RI/FS Work Plan.		Status information on the RI/FS is being reported in accordance with the requirements of Section X of the Consent Agreement under CERCLA Section 120 and 106(a).
3.	REPORTS AND RECORD KEEPING		
3.B	Submit monthly RI/FS progress reports.	monthly	The RI/FS Monthly Progress Report for April 1991 was transmitted to the U.S. EPA on May 17, 1991 (DOE-1358-91).
<b>CLEAN AIR ACT</b>			
B.4	Prepare annual progress report on installation and replacement of emission control devices.	yearly	The Third Annual Progress Report on installation and replacement of emission control devices was transmitted to the U.S. EPA on February 22, 1990 (DOE-617-90).
C.	Provide annual reports to U.S. EPA per 40 CFR 61.94(c).	yearly	The Annual NESHAP Compliance Report for CY 1989 was transmitted to the U.S. EPA on July 9, 1990 (DOE-1392-90).
D.1	Provide U.S. EPA with yearly stack-testing schedule.	yearly	The 1989 stack testing schedule was transmitted to U.S. EPA on June 16, 1989. A letter (DOE-1615-89) was transmitted to the U.S. EPA on September 15, 1989 indicating that due to the uncertainty concerning resumption of production at the FMPC, the 1989 FFCA Stack Testing Program was being deferred. Notification of future stack testing dates will be provided to the U.S. EPA if and when a decision on the restart of facilities at the FMPC is made.
D.2	Provide U.S. EPA with stack-test results for stacks tested that year.	45 days	Stack testing is currently on hold pending resumption of manufacturing operations. Notification of future stack testing dates will be provided to the U.S. EPA if and when a decision on the restart of production activities at the FMPC is made.

TABLE 1  
STATUS OF ASSIGNMENTS FOR WORK REQUIRED ON  
FEDERAL FACILITY COMPLIANCE AGREEMENT ACTIONS

STATUS OF ACTIONS AS OF  
MAY 31, 1991

ACTION	DESCRIPTION	COMPLETION TIME AFTER FFCA SIGNED	FY91 STATUS
E.1	Maintain records of monthly particulate matter emissions.	-----	Continuing.
E.2	Provide quarterly reports to U.S. EPA on these emissions.	quarterly	The eighteenth Quarterly Particulate Emissions Report for the period January 4, 1991 through April 5, 1991 was submitted to the U.S. EPA May 24, 1991 (DOE-1389-91). The seventeenth Quarterly Particulate Emissions Report for the period October 5, 1990 through January 4, 1991 was transmitted to the U.S. EPA on March 8, 1991 (DOE-773-91).
RCRA			
A.1	Conduct a hazardous waste determination on all waste streams.	30 days	Pursuant to the amended Consent Decree, a RCRA waste evaluation will be conducted on all site materials by 10/92.
A.2	Commence a hazardous waste analysis program for materials in the landfill and going to the incinerator.	30 days	Complete. Operations of these units was discontinued and data on the waste which had gone to them was provided in a 30-day FFCA deliverable on August 17, 1986. However, further review of both the waste streams and the potential of the units to be hazardous waste management units are being evaluated as actions required by the amended Consent Decree. Final results are due October 30, 1992.
A.5	Update the facility closure plan to reflect the year the facility expects to begin closure.	30 days	The facility closure date is dependent upon closure schedules for individual TSD units as presented most recently in Section 1 of the RCRA Part B Permit Application submitted to the U.S. EPA on September 22, 1989. Facility closure will be completed on the date the last TSD unit is closed.



TABLE 1

**STATUS OF ASSIGNMENTS FOR WORK REQUIRED ON  
FEDERAL FACILITY COMPLIANCE AGREEMENT ACTIONS**

**STATUS OF ACTIONS AS OF  
MAY 31, 1991**

ACTION	DESCRIPTION	COMPLETION TIME AFTER FFCA SIGNED	FY91 STATUS
<b>RADIATION DISCHARGE INFORMATION</b>			
A.3	Report to U.S. EPA, Ohio EPA and Ohio Department of Health the results of the continuous liquid discharge samples.	quarterly	The eighteenth Quarterly Liquid Discharge Report for the period January through March 1991 was transmitted to the U.S. EPA on May 24, 1991 (DOE-1389-91). The seventeenth Quarterly Liquid Discharge Report for the period October through December 1990 was transmitted to the U.S. EPA on March 8, 1991 (DOE-773-91).
<b>REPORTING REQUIREMENTS</b>			
B.	Issue monthly progress report of actions taken to ensure compliance with FFCA requirements.	monthly	April's FFCA Monthly Progress Report was transmitted to the U.S. EPA on May 17, 1991 (DOE-1358-91).

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT MONTHLY PROGRESS REPORT  
PERIOD ENDING MAY 31, 1991**

**ENCLOSURE C  
DRILLING AND BORING LOGS**

**VISUAL CLASSIFICATION OF SOILS**

PROJECT NUMBER: 602.26.91	PROJECT NAME: SMPG RI/FS	
BORING NUMBER: 1710	COORDINATES:	DATE: 5-31-91
ELEVATION:	GWL: Depth Date/Time	DATE STARTED: 5-31-91
ENGINEER/GEOLOGIST: J. Lear	Depth Date/Time	DATE COMPLETED: 6-4-91
DRILLING METHODS: Auger, Mobile 53		PAGE 1 OF 5

DEPTH (FT.)	SAMPLE TYPE & NO.	BLOWS ON SAMPLER PER (6 in.)	RECOVERY (%)	DESCRIPTION	USCS SYMBOL	MEASURED CONSISTENCY (TSF)	REMARKS
				S.A.A. - Same As Above			
				N.R. - No Recovery			
1	67026 1330 5-11-91	4 10 12	19	medium dense, dark brown (10YR 3/5) clayey silt, some organic, some gravel, low plasticity, sil. moist	ML	NA	H <sub>25</sub> - 0 ppm B <sub>25</sub> - 50-100cpm α - 0cpm
2	67027 1340 5-31-91	9 9 10	18	medium dense, black (2.5Y 2/1) sandy silt, Trace gravel, dry	ML	NA	H <sub>25</sub> - 0ppm B <sub>25</sub> - 50-100cpm α - 0cpm
3	67028 1350 5-31-91	7 10 10	18	S.A.A.	ML	NA	B <sub>25</sub> - 50-100cpm H <sub>25</sub> - 0 ppm α - 0cpm
4	67029 1400 5-31-91	7 8 8	18	S.A.A.	ML	NA	H <sub>25</sub> - 0 ppm B <sub>25</sub> - 50-100cpm α - 0cpm
5	67030 1435 5-11-91	1 3 3	12	loose, black (2.5Y 2/1) silt, some sand trace gravel, dry.	ML	NA	H <sub>25</sub> - 0 ppm B <sub>25</sub> - 50-100cpm α - 0cpm
6	67031 1440 5-31-91	2 3 3	16	S.A.A.	ML	NA	H <sub>25</sub> - 0 ppm B <sub>25</sub> - 50-100cpm α - 0cpm
7	67032 1445 5-31-91	2 2 2	18	S.A.A.	ML	NA	H <sub>25</sub> - 0 ppm B <sub>25</sub> - 50-100cpm α - 0cpm
8	67033 1450 5-31-91	2 3 3	0	N.R.	NA	NA	H <sub>25</sub> - 0 ppm B <sub>25</sub> - 50-100cpm α - 0cpm
9	67034 1530 5-31-91	1 1 2	18	loose, black, (2.5Y 2/1) silt, some sand Trace gravel, sil. moist.	ML	NA	H <sub>25</sub> - 0 ppm B <sub>25</sub> - 50-100cpm α - 0cpm
10	67035 1535 5-31-91	1 2 2	18	S.A.A.	ML	NA	H <sub>25</sub> - 0 ppm B <sub>25</sub> - 50-100cpm α - 0cpm

## NOTES:

Drilling Contractor Penn Drilling  
 Drilling Equipment Mobil 53 Auger  
 Driller: Bob Vost  
Asst. Bill Anderson

Background  
 H<sub>25</sub> - 0ppm  
 B<sub>25</sub> - 50-100cpm  
 α - 0cpm

All soils classified according to Munsell color chart.

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**VISUAL CLASSIFICATION OF SOILS**

PROJECT NUMBER: <u>602-26-91</u>	PROJECT NAME: <u>FMPC RI/FS DU-2</u>	
BORING NUMBER: <u>1710</u>	COORDINATES:	DATE: <u>6-1-91</u>
ELEVATION:	GWL: Depth      Date/Time	DATE STARTED: <u>5-31-91</u>
ENGINEER/GEOLOGIST: <u>J. Lear</u>	Depth      Date/Time	DATE COMPLETED: <u>6-4-91</u>
DRILLING METHODS: <u>Auger</u>	PAGE <u>2</u> OF <u>5</u>	

DEPTH (FT.)	SAMPLE TYPE & NO.	BLOWS ON SAMPLER PER (C.U.)	RECOVERY (%)	DESCRIPTION	USCS SYMBOL	MEASURED CONSISTENCY (TSF)	REMARKS
16	67036 1 1540 5-11-91	1 2	6	S.A.A	ML	NA	H <sub>2</sub> O - 0 ppm B <sub>2</sub> - 50-100 cpm α - 0 cpm
17	67038 2 67039 5100	3	18	loose, black (2.5Y, 2/ ) silt, trace sand, dry. -16.9" loose, black (2.5Y, 2/ ) silt, some sand, trace gravel, dry.	ML	NA	H <sub>2</sub> O - 0 ppm B <sub>2</sub> - 50-100 cpm α - 0 cpm
18	6-1-91	3			ML	NA	
19	67037 4 67040 0905	4	18	S.A.A	ML	NA	H <sub>2</sub> O - 0 ppm B <sub>2</sub> - 50-100 cpm α - 0 cpm
20	6-1-91	5			ML	NA	
21	67046 4 0915	18	8	very dense, (2.5Y, 2/ ) black, silt, trace sand, some gravel ignets, dry	ML	NA	H <sub>2</sub> O - 0 ppm B <sub>2</sub> - 50-100 cpm α - 0 cpm
22	6-1-91	27			NA	NA	
23	67042 31 0950	42	0	N.R	NA	NA	H <sub>2</sub> O - 0 ppm B <sub>2</sub> - 50-100 cpm α - 0 cpm
24	6-1-91	27			ML	NA	
25	67043 40 1000	75/5	6	very dense, black (2.5Y, 2/ ) silt, some yellowish red, (5YR, 5/6) stone ignets Trace sand, dry.	ML	NA	B <sub>2</sub> - 200-240 α - 0-2 H <sub>2</sub> O - 0
26	6-1-91			Impermeable struck, Attempt to Auger thru			
27	67044 19 1320	32	3	Dense, black, (2.5Y, 2/ ) silt, concrete rubble cobbles, trace sand, gravel, dry	ML	NA	H <sub>2</sub> O - 0-4 ppm B <sub>2</sub> - 100-150 cpm α - 0 cpm
28	6-1-91	32			ML	NA	
29	67045 32 1345	30	8	Dense, black, (2.5Y, 2/ ) silt, some organic some concrete gravel, trace sand, sl. moist.	ML	NA	H <sub>2</sub> O - 2 ppm B <sub>2</sub> - 100-400 cpm α - 0 cpm
30	6-1-91	18			GW	NA	
31	67046 25 1410	25	16	Dense, dark olive gray (5Y, 3/2) gravelly sand, trace silt, wet Auger clayey silt Dense, yellowish brown (10YR, 5/4) silty clay Some gravel & cobbles, moist.	ML	NA	H <sub>2</sub> O - 0 ppm B <sub>2</sub> - 100-900 cpm α - 0-2 cpm
32	6-1-91	14			ML	NA	
33	67047 20 1515	25	14	soft, dark olive gray (5Y, 3/2) clay, trace silt med plast., moist. very dense, yellowish brown, (10YR, 5/8) well sorted coarse sand, trace gravel, dry.	CL	0.6	H <sub>2</sub> O - < 1.0 ppm B <sub>2</sub> - 40-190 cpm α - 0 cpm
34	6-1-91	28			SP	NA	

NOTES:

Drilling Contractor Penn Drilling  
Drilling Equipment Mobile S3 Auger  
Driller: Bob Yost  
Asst. Bill Anderson

Background  
H<sub>2</sub>O - 0 ppm  
B<sub>2</sub> - 50-100 cpm  
α - 0 cpm

All soils classified according to munsell color chart.

**VISUAL CLASSIFICATION OF SOILS**

PROJECT NUMBER: 602.26-91	PROJECT NAME: FMPC RI/FS OU-2	
BORING NUMBER: 1710	COORDINATES:	DATE: 6-1-91
ELEVATION:	GWL: Depth Date/Time	DATE STARTED: 5-31-91
ENGINEER/GEOLOGIST: J. Lear	Depth Date/Time	DATE COMPLETED: 6-4-91
DRILLING METHODS: Auger	PAGE 3 OF 5	

DEPTH (FT.)	SAMPLE TYPE & NO.	BLOWS ON SAMPLER PER (6 in.)	RECOVERY (in.)	DESCRIPTION	USCS SYMBOL	MEASURED CONSISTENCY (TSF)	REMARKS
31	67048 67049 1530 6-1-91	20 30 32	18	S.A.A	SP	NA	H <sub>nu</sub> - 0ppm B <sub>1</sub> - 50-100cpm α - 0cpm
32				Boring plugged and Abandoned Samples taken according to OU-2 work plan			
33							
34							
35							
36							
				TCLP COMP. - 67051 1545			
				SRLP COMP. - 67050 1545			
				Trif Blank - 67052 0830			
				Field Blank - 67053 0930			
				Full Rad - 67054 1400 51/51			
				Full Rad - 67055 1445 51/51			
				Iq. Corr Tox - 67056 1545 6/1			
				Field Rad - 67057 27.0-28.5			
				Archive			
				J.L. 6-4-91			

**NOTES:**

Drilling Contractor Penn Drilling  
 Drilling Equipment Mohik S3 Auger  
 Driller: Bob Yost  
Asst. Bill Anderson

Background  
 H<sub>nu</sub> - 0 ppm  
 B<sub>1</sub> - 50-100 cpm  
 α - 0 cpm

**PIEZOMETER INSTALLATION SHEET**

PROJECT NAME FMPC RI/FS DU-2 FIELD ENG./GEO. J. Lear DATE 6-3-91  
 PROJECT NO. 602.26.91 CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_  
 BORING NO. 1710  
 PIEZOMETER NO. NA DATE OF <sup>Plugging</sup> INSTALLATION 6-3-91, 6-9-91  
6-5-91, J.L.

**BOREHOLE DRILLING**

DRILLING METHOD <u>Auger</u>	TYPE OF BIT <u>10 in Hollow Stem Auger</u>
DRILLING FLUID (S) USED: <u>NA</u>	CASING SIZE (S) USED: <u>NA</u>
FLUID <u>NA</u> FROM _____ TO _____	SIZE <u>NA</u> FROM _____ TO _____
FLUID <u>NA</u> FROM _____ TO _____	SIZE <u>NA</u> FROM _____ TO _____

**PIEZOMETER DESCRIPTION**

TYPE <u>NA</u>	RISER PIPE MATERIAL <u>NA</u>
DIAMETER OF PERFORATED SECTION <u>NA</u>	RISER PIPE DIAMETERS: <u>NA</u>
PERFORATION TYPE: <u>NA</u>	O.D. <u>NA</u> I.D. <u>NA</u>
SLOTS <input type="checkbox"/> HOLES <input type="checkbox"/> SCREEN <input type="checkbox"/>	LENGTH OF PIPE SECTIONS <u>NA</u>
AVERAGE SIZE OF PERFORATIONS <u>NA</u>	JOINING METHOD <u>NA</u>
TOTAL PERFORATED AREA <u>NA</u>	

**PROTECTION SYSTEM**

RISER PROTECTIVE PIPE LENGTH <u>NA</u>	OTHER PROTECTION <u>NA</u>
PROTECTIVE PIPE O.D. <u>NA</u>	

ITEM	DISTANCE ABOVE/BELOW GROUND SURFACE (ft.)		ELEVATION ( )	
TOP OF RISER PIPE	<u>NA</u>			
GROUND SURFACE	0.0			
BOTTOM OF PROTECTIVE PIPE	<u>NA</u>			
BOREHOLE FILL MATERIALS: <u>Cement</u> GROUT/SLURRY BENTONITE SAND GRAVEL	TOP	Bottom		
	TOP <u>1.0</u>	BOTTOM <u>31.5</u>	TOP	BOTTOM
	TOP <u>NA</u>	BOTTOM <u>NA</u>	TOP	BOTTOM
	TOP <u>NA</u>	BOTTOM <u>NA</u>	TOP	BOTTOM
PERFORATED SECTION	TOP <u>NA</u>	BOTTOM <u>NA</u>	TOP	BOTTOM
PIEZOMETER TIP	<u>NA</u>			
BOTTOM OF BOREHOLE	<u>31.5</u>			
GWL AFTER INSTALLATION	<u>NA</u>			

WAS THE PIEZOMETER FLUSHED AFTER INSTALLATION? YES ☐ NO ☒  
 WAS A SENSITIVITY TEST PERFORMED ON THE PIEZOMETER? YES ☐ NO ☒ 53  
 REMARKS NO water observed in Boring thus plugged and Abandoned  
Bentonite was used throughout the Grouting process to impede lateral migration  
of Grout

5/51563

## FERNALD RI/FS

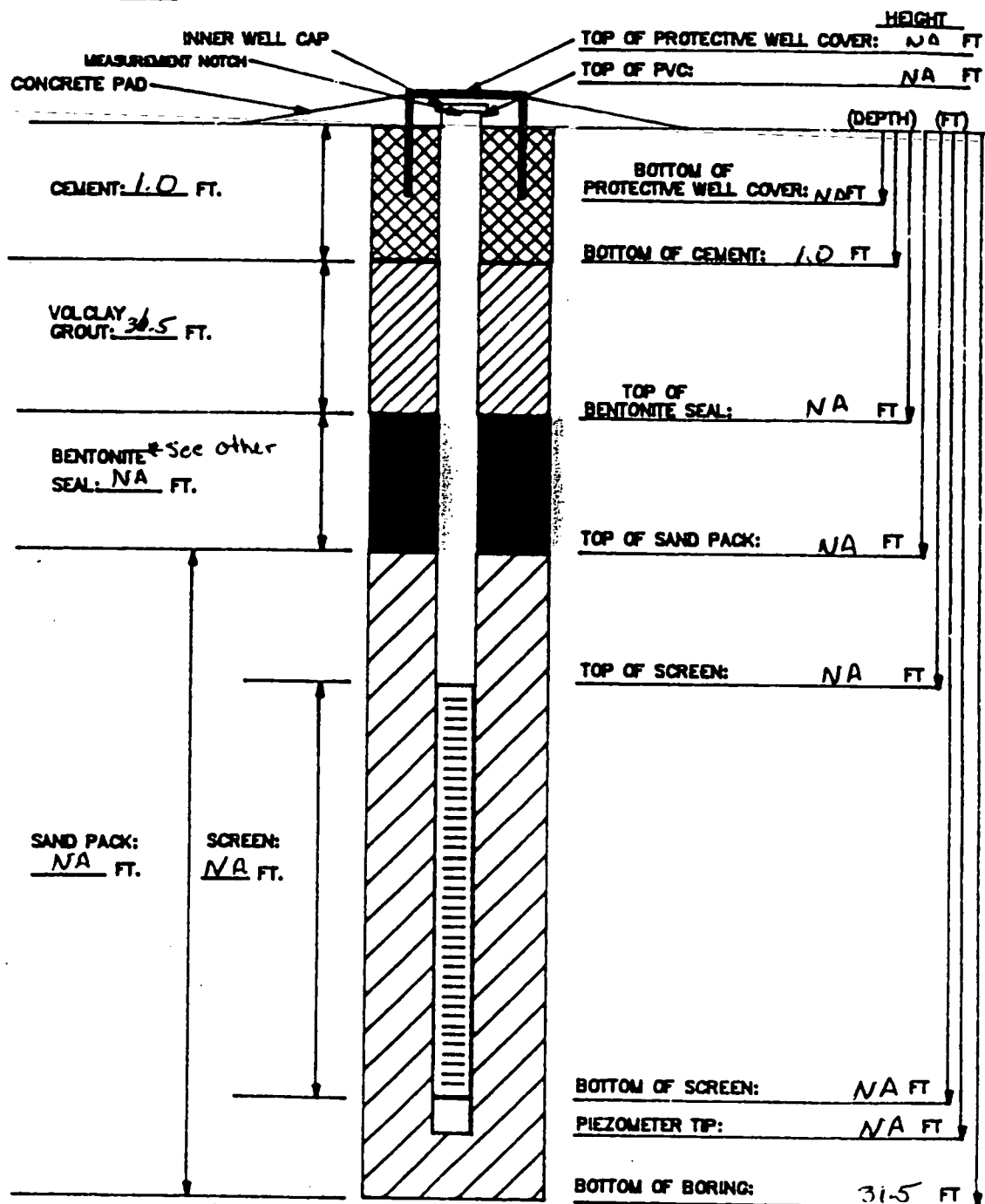
INSTALLATION DIAGRAM

MONITORING WELL NO.

Plugged Boring

1710

INSTALLATION DATE: 6-3, 6-4-91



## MATERIALS USED:

SAND TYPE AND QUANTITY: NA  
 BENTONITE PELLETS (5-GALLON BUCKETS): 2  
 BAGS OF VOLCLAY GROUT: 7  
 AMOUNT OF CEMENT: 1 bag  
 AMOUNT OF WATER USED: 100 gals  
 OTHER: Bentonite was used to attempt to stop migration of grout laterally

## NOTES: NA

- 1) RISER PIPE IS 2-INCH SCHEDULE 40 PVC PIPE, FLUSH-THREADED JOINTS.
- 2) SCREEN IS 2-INCH I.D. SCHEDULE 40 PVC PIPE WITH 0.020-INCH SLOTS.
- 3) LOWER END OF SCREEN IS CAPPED WITH AN END CAP OR THREADED BUMP.
- 4) WATER DEPTH/DATES NA

- 5) TOP OF PVC IS SECURED WITH EXPANDABLE RUBBER PLUG AND PADLOCK.
- 6) PARENTHESES INDICATE DEPTH BELOW GROUND LEVEL.

TASK: 602-26-91

GEOLOGIST/ENGINEER: J. war

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